UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,020	06/23/2004	Yutaka Ashida	AIA-107-PCT	2767

28892 7590 01/08/2007

SNIDER & ASSOCIATES
P. O. BOX 27613
WASHINGTON, DC 20038-7613

EXAMINER	
CLARK, AMY LYNN	
ART UNIT	PAPER NUMBER
1655	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/500,020	ASHIDA ET AL.	
	Examiner	Art Unit	
	Amy L. Clark	1655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-17* is/are pending in the application.

4a) Of the above claim(s) *4-16* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3 and 17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 20 October 2006 has been entered. Acknowledgement is made of the cancellation of Claim 2 by Applicant.

Claims 1 and 3-17 are currently pending in this application.

Claims 1, 3 and 17 are under examination.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Screening method for [**specific active ingredient/s**] which inhibit production or release of stem cell factor".

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "said active ingredients" in line 9. There is insufficient antecedent basis for this limitation in the claim.

The metes and bounds of Claim 1 are rendered uncertain by the phrase "drying stimulation" in line 12 because it is unclear as to what "drying stimulation" means. What is "drying stimulation"? For example, does Applicant mean that the cells are dried or the cells are exposed to dry compounds? The lack of clarity renders the claims indefinite since the resulting claims do not clearly set forth the metes and bounds of the patent protection desired.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Response to Arguments

Claim Rejections - 35 USC § 103

Applicant's arguments, see "Applicant Arguments/Remarks Made in an Amendment", filed 19 September 2006, with respect to the rejection(s) of claims 1-3 and

17 under 35 U.S.C. 103(a) as being unpatentable over Hachiya et al. (U*, J. Invest. Dermatol. 2001; 116(6): 578-586), Kawaguchi et al (V*, J. Invest. Dermatol. 2001; 116(6): 920-925), in view of Botchkareva et al. (W*, FASEB 2001; 15: 645-658) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made under 35 U.S.C. 103(a) as being unpatentable over Mak (A, US Patent Number 9,190,691 B1), in view of Bissonnette et al. (X, J Allergy Clin Immunology, 1997; 100 (6, Pt. 1): 825-831) and Denda (U1, J. Dermatol. Sci. 2000; 24 Suppl 1: S22-S28).

Claims 1, 3 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mak (A, US Patent Number 9,190,691 B1), in view of Bissonnette et al. (W, J Allergy Clin Immunology, 1997; 100 (6, Pt. 1): 825-831) and Denda (X, J. Dermatol. Sci. 2000; 24 Suppl 1: S22-S28).

Mak teaches a number of screening methods for evaluating compounds capable of suppressing cytokine production either *in vitro* or *in vivo* (See abstract). Mak further teaches a method of screening for skin immune or inflammation modulating agents, wherein keratinocytes are stimulated to produce at least one cytokine or MHC Class II molecule and that a portion of the keratinocytes are exposed to a putative skin inflammation modulating agent and a determination is made as to whether the putative agent is effective to modulate the production of the cytokine or MHC class II molecule in the exposed keratinoytes (See column 3, lines 13-21). Mak further teaches a method of treating a pathological condition mediated by TNF production in a mammal by

administering a therapeutically effective amount of a potassium sparing diuretic, antidiarrhheal, cyclic AMP modulating agent or calcium channel blocker (See column 3, lines 30-48), wherein the pathological condition is a skin inflammatory condition such as psoriasis, atopic dermatitis, UV-induced inflammation, contact dermatitis or inflammation induced by other drugs (See column 3, lines 59-64). Mak further teaches that normal or healthy skin contains no signs of mast cell degranulation (See column 6, lines 51-65) and that TNF inhibitors or TNF antagonist refer to agents which reduce the production of TNF in any TNF producing cell, including keratinocytes and mast cells (See column 7, lines 27-31). Mak further teaches that the skin makes TNF and that there is a strong link between pathogenesis of psoriasis and the localized production of TNF (See column 10, lines 37, 38 and 53-67 continued into column 11, lines 1-7). Mak further teaches that the method derives from a sequence of cellular events which lead to the skin inflammatory response, wherein the sequence includes the phases of loss of accentuated transepidermal water loss cause by an insult, injury or other chemical or physical stimulus to the skin, consequent change in the ion gradients normally maintained in the skin, the release of pre-formed cytokines, resulting in full-blown inflammation and the transduction of signals by keratinocytes to produce and/or secrete additional cytokines, wherein the method exploits these sequences of events to provide superior screening methods for anti-inflammatory drugs as well as superior anti-inflammatory agents, methods and compositions (See column 12, lines 48-62). Mak further teaches methods for treating pathological conditions mediated by TNF production in a mammal using pharmacological agents to regulate the formation,

release and biological reactions of TNF and other proinflammatory cytokines or other immunomodulatory substances, such as calcium channel blockers, diuretics, antidiarrheals, phosphodiesterase inhibitors and .beta.-agonists and that within each of these groups are representative members which inhibit TNF production and which are now identified as TNF inhibitors by the screening methods described herein and that the methods of treatment provided by the present invention use those calcium channel blockers, diuretics, antidiarrheals, phosphodiesterase inhibitors and .beta.-agonists which also inhibit TNF production (See column 29, lines 64-67 and column 30, lines 1-14).

Bissonnette teaches a method to determine that beta 2-agonist inhibit the release of preformed mediators, such as histamine, from mast cells and that beta 2-agonists demonstrate anti-inflammatory activity by inhibiting the release of TNF-alpha from mast cells stimulated through their IgE receptor or by a tumor target cell.

Denda teaches that a dry environment contributes to the exacerbation of cutaneous disorders such as epidermal hyperplasia, mast cell degranulation and cytokine secretion.

The teachings of Mak, Bissonnette and Denda are set forth above. Mak does not expressly teach a method comprising the steps of assaying the amount of SCF produced and/or released by keratinocytes and selecting test ingredients which reduce the amount of production and/or release of SCF as said active ingredients, wherein said epidermal keratinocytes are subjected to stimulation to provide SCF production and/or release. However, at the time the invention was made, it would have been obvious to

one of ordinary skill in the art and one would have been motivated and had a reasonable expectation of success to modify the method taught by Mak by assaying the amount of SCF produced and/or released by keratinocytes and selecting test ingredients which reduce the amount of production and/or release of SCF as said active ingredients, wherein said epidermal keratinocytes are subjected to stimulation to provide SCF production and/or release because at the time the invention was made, a number of screening methods for evaluating compounds capable of suppressing cytokine production either *in vitro* or *in vivo*, as was a method of screening for skin immune or inflammation modulating agents, wherein keratinocytes are stimulated to produce at least one cytokine or MHC Class II molecule and that a portion of the keratinocytes are exposed to a putative skin inflammation modulating agent and a determination is made as to whether the putative agent is effective to modulate the production of the cytokine or MHC class II molecule in the exposed keratinoytes, as was a method of treating a pathological condition mediated by TNF production in a mammal by administering a therapeutically effective amount of a potassium sparing diuretic, antidiarrhheal, cyclic AMP modulating agent or calcium channel blocker, wherein the pathological condition is a skin inflammatory condition such as psoriasis, atopic dermatitis, UV-induced inflammation, contact dermatitis or inflammation induced by other drugs, as was a method derived from a sequence of cellular events which lead to the skin inflammatory response, wherein the sequence includes the phases of loss of accentuated transepidermal water loss cause by an insult, injury or other chemical or physical stimulus to the skin, consequent change in the ion gradients normally

maintained in the skin, the release of pre-formed cytokines, resulting in full-blown inflammation and the transduction of signals by keratinocytes to produce and/or secrete additional cytokines, wherein the method exploits these sequences of events to provide superior screening methods for anti-inflammatory drugs as well as superior anti-inflammatory agents, methods and composition, methods for treating pathological conditions mediated by TNF production in a mammal using pharmacological agents to regulate the formation, release and biological reactions of TNF and other proinflammatory cytokines or other immunomodulatory substances, such as calcium channel blockers, diuretics, antidiarrheals, phosphodiesterase inhibitors and .beta.-agonists and that within each of these groups are representative members which inhibit TNF production and which are now identified as TNF inhibitors by the screening methods described herein and that the methods of treatment provided by the present invention use those calcium channel blockers, diuretics, antidiarrheals, phosphodiesterase inhibitors and .beta.-agonists which also inhibit TNF production, that normal or healthy skin contains no signs of mast cell degranulation and that TNF inhibitors or TNF antagonist refer to agents which reduce the production of TNF in any TNF producing cell, including keratinocytes and mast cells, that the skin makes TNF and that there is a strong link between pathogenesis of psoriasis and the localized production of TNF were known at the time the invention was made, as clearly taught by Mak, as was a method to determine that beta 2-agonist inhibit the release of preformed mediators, such as histamine, from mast cells and that beta 2-agonists demonstrate anti-inflammatory activity by inhibiting the release of TNF-alpha from mast cells

stimulated through their IgE receptor or by a tumor target cell, as clearly taught by Bissonette, as was that a dry environment contributes to the exacerbation of cutaneous disorders such as epidermal hyperplasia, mast cell degranulation and cytokine secretion, as clearly taught by Denda. Therefore, it would have been obvious to one of ordinary skill in the art, one would have been motivated and had a reasonable expectation of success to modify the method taught by Mak because at the time the invention was made it would have been well within the purview of one of ordinary skill in the art to measure the amount of stem cell factor released upon exposing keratinocytes with test ingredients upon stimulating keratinocytes with either drying or chemical stimulation and selecting test ingredients which reduce the amount of stem cell factor production and/or released by said cells and selecting test ingredients which reduce the amount of production and/or release of stem cell factor as said active ingredients because dry conditions promote mast cell degranulation, as clearly taught by Denda, as do chemicals such as RETIN-A (all trans retinoic acid), as clearly taught by Mak (See column 3, line 64).

Moreover, it would have been merely a matter of judicious selection to one of ordinary skill in the art at the time the invention was made to modify the referenced method because it would have been well in the purview of one of ordinary skill in the art practicing the invention to pick and choose a ingredients to inhibit the amount of production and/or release of stem cell factor by contacting epidermal keratinocytes with test ingredients and assaying the amount of stem cell factor released, as clearly taught by Mak, Bissonette and Denda.

Based upon the beneficial teachings of the cited references, the skill of one of ordinary skill in the art, and absent evidence to the contrary, there would have been a reasonable expectation of success to result in the claimed invention.

Accordingly, the claimed invention was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, especially in the absence of evidence to the contrary.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Applicant is advised that should claim 3 be found allowable, claim 17 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy L. Clark whose telephone number is (571) 272-1310. The examiner can normally be reached on 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terry McKelvey can be reached on (571) 272-0775. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amy L. Clark
AU 1655

Amy L. Clark
November 27, 2006

Michele C. Flood

MICHELE FLOOD
PRIMARY EXAMINER